

Remarks

Claims 1 and 11 have been amended. Claim 2 has been canceled without prejudice. Claim 11 was amended to depend from claim 1, rather than canceled claim 2. No new matter has been added by way of these amendments.

Rejection under 35 USC 102(a) and (b)

Applicant has amended claim 1 so as to emphasize the difference over the citation, Zhenya Zhu (referred to hereinafter as ‘Zhu’) relied on by the examiner.

Claim 1 has been amended to clarify that both the seismo-electromagnetic signal and electromagneto-seismic signal are generated and measured by the same logging tool. Furthermore, these signals are then combined to perform analysis of the borehole formation.

Such features are not disclosed in Zhu. Instead Zhu describes how a formation, *“excited by a monopole source in borehole models, can generate seismoelectric fields in fluid-saturated formations”* (p1349). Furthermore, D1 describes investigation on a *“potential logging method which can measure both the propagating and the localized seismoelectric fields by setting the electric receiver in the borehole”*. (p1350)

Thus, in Zhu different devices are performing different measurements. Moreover, there is no disclosure of a logging tool capable of performing and combining two types of measurements, i.e. seismoelectric and electroseismic.

Rejection under 35 USC 103(a)

Zhu refers to two different tools, but does not disclose any technical solution for building a single tool. It would not have been obvious to a person skilled in the art to perform two different measurements on a single tool or more importantly, to combine them. It is

advantageous to have an array of receivers for performing both measurements (seismoelectric and electroseismic) at the same location and source for both types of excitation at substantially the same location. The combination helps accurately determine the properties of the formation at a particular location.

There is not teaching in either Zhu, Strack, or any of the citations relied upon of developing a single logging tool that is adapted to combine both seismoelectric and electroseismic measurements, as recited in both claims 1 and 12 of the present invention.

Applicant is of the opinion that this reply is fully responsive to all outstanding issues.

Accordingly, the application is now deemed to be in condition for allowance, and notice to that effect is solicited. This paper is submitted in response to the Office Action mailed 18 March 2008 for which the three-month date for response was 18 June 2008. Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of three months in which to respond to the Office Action. This three month extension will bring the deadline for response to 18 September 2008, which is within the six-month statutory period.

Please apply any charges not covered, or any credits, to Deposit Account 50-2183 (Reference Number 21.1135).

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Respectfully submitted,

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